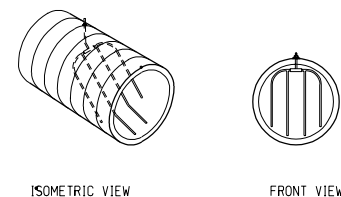
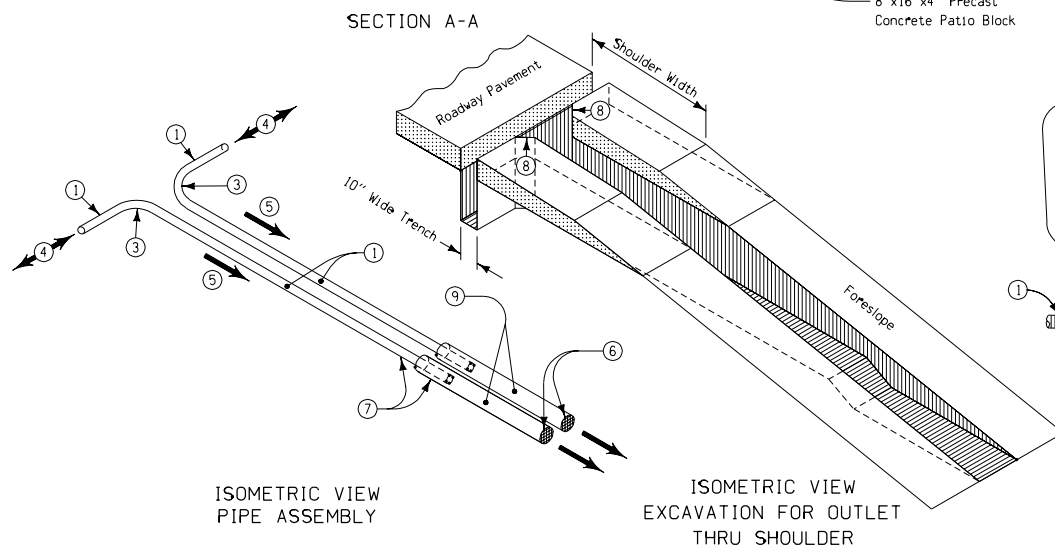
REMOVABLE GRATE RODENT GUARD  
DETAILS ⑥REMOVABLE FORK RODENT GUARD  
DETAILS ⑥

Figure 1 is a cross-sectional diagram of a proposed slope stabilization system. The diagram shows a cross-section of a slope with various layers and components. A horizontal layer at the base is labeled "12'-0" and "3". Above this is a layer of "Earth Fill" with a "Backslope" indicated. A "Porous Backfill Uncompacted" layer is shown on the left. A "1'-6" dimension is marked for a specific layer. A "7" is labeled near the top of the slope, and a "9" is labeled near the base of the slope.

TYPICAL SECTION  
BACKSLOPE OUTLET

This sheet illustrates the construction of the outlet assembly for longitudinal, transverse and backslope subdrains. Transverse and backslope drains only require single outlets. Double outlet pipes shall be used on all longitudinal subdrains systems, except at the end and beginning of the system. At these locations, a single outlet pipe will be required.

Materials and construction methods used shall be in accordance with current Standard and Supplemental Specifications.

Refer to "Tabulation of Longitudinal Subdrain" or "Tabulation of Bridge Approach Section" for details of individual subdrain installation.

Price bid for "Subdrain Outlet, RF-19E", per unit, shall be considered full compensation for all installation work and materials necessary as detailed hereon, and as required by project plans. Double outlets are considered two outlets for payment count.

- ① 4" Perforated Subdrain (Polyethylene Corrugated Tubing).
- ② On projects where existing shoulder material is removed, the shoulder material shall be replaced as per "Placing Longitudinal Subdrains" of the current Standard and Supplemental Specifications.
- ③ "Y" or "T" connection shall not be allowed. Place subdrain on 1 foot minimum radius.
- ④ Direction of flow. Double outlets will be required at all locations, except where the subdrain system terminates.
- ⑤ 6" minimum drop in elevation between longitudinal subdrain and outlet.
- ⑥ Removable grate rodent guard shall be used on all projects except those using recycled subbase. For projects using recycled subbase, use the removable fork rodent guard. See Materials I.M. 443.01.
- ⑦ 6" corrugated metal pipe outlet or 4" corrugated double-walled PE or PVC pipe with an appropriate coupler. If metal pipe is used, the pipes should be coupled in one of the two following ways: (1) Use an inside fit reducer coupler (coupler must be inserted a minimum of 12" into C.M.P.); or (2) Insert 12" of the 4" subdrain into the 6" metal outlet pipe, then fully seal the entire opening with grout.
- ⑧ Trench shall be beveled to provide a minimum of 3" of porous backfill surrounding all portions of subdrain pipe.
- ⑨ Corrugated metal pipe outlet 2" larger than existing subdrain pipe, or corrugated double-walled PE or PVC pipe of the same diameter as the existing subdrain pipe.
- ⑩ Class 'A' Crushed Stone or Special Backfill shall be mounded over outlet and carefully compacted to avoid damaging outlet pipe.



<b>STANDARD ROAD PLAN</b>	<b>RF-19E</b>
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REVISION: Clarify the uses of fork rodent guard.

REVISION NO.
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REVISION DATE	
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APPROVED BY DESIGN METHODS ENGINEER

## OUTLETS FOR LONGITUDINAL, TRANSVERSE AND BACKSLOPE SUBDRAINS